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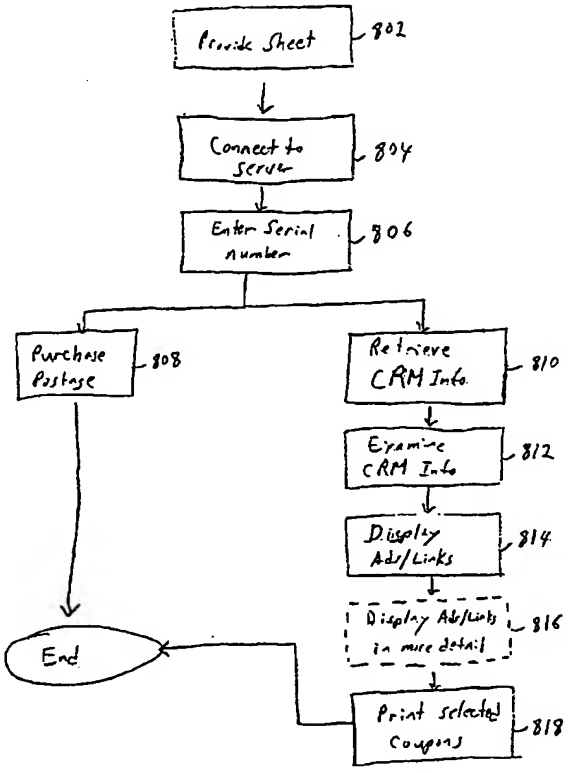
(54) Title: TARGETED ADVERTISEMENT SECURITY FEATURE ON A POSTAGE MEDIUM



(57) Abstract: A method of providing an advertisement (816) targeted to a user trying to purchase a value stamp (808) over a communication network includes providing a medium to a user having access to a data processing system. The medium is suitable for printing a value indicium (818) thereon and has an identifier code that identifies the medium. The identifier code of the medium is received from the user to be used to purchase a value stamp. The identifier code is used to retrieve one or more advertisements (814) from a pool of advertisements that are available to be provided to the user. The retrieved one or more advertisements (816) is provided to the user.

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TARGETED ADVERTISEMENT SECURITY FEATURE ON POSTAGE MEDIUM

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CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims priority from Application No. 60/216,778, filed July 7, 2000, entitled "A Method And System For Dispensing Postage Over The Internet With Enhanced Postal Security Features," the entire disclosure of which, including all attachments and appendices, is incorporated by reference in their entirety for all purposes.

The following pending U.S. applications, including all attachments and appendices, are incorporated by reference in their entirety for all purposes:

(1) U.S. Non-Provisional Patent Application No. 09/611,375, entitled "Providing Stamps On Secure Paper Using A Communications Network," filed July 7, 2000;

(2) U.S. Provisional Patent Application No. 60/216,779, entitled "System And Method Of Printing Labels," filed July 7, 2000;

(3) U.S. Provisional Patent Application No. 60/216,653, entitled "Method And System For Dispensing Postage Over The Internet, With Enhanced Postal Security Features" filed July 7, 2000;

(4) U.S. Provisional Patent Application No. 60/206,207, entitled "Providing Stamps on Secure Paper Using A Communications Network" filed May 22, 2000;

(5) U.S. Provisional Patent Application No. 60/204,357, entitled "Stamps Over a Communications Network" filed May 15, 2000;

(6) U.S. Provisional Patent Application No. 60/181,299, entitled "System and Method For Stamps Over The Internet," filed February 9, 2000;

(7) U.S. Provisional Patent Application No. 60/181,368, entitled "System and Method For Stamps Over The Internet," filed February 8, 2000;

(8) U.S. Provisional Patent Application No. 60/165,885, entitled "System And Method For Managing Multiple Postage Functions In A Single Account," filed November 16, 1999;

(9) U.S. Provisional Patent Application No. 60/164,639, entitled "System and Method For Dispensing Postage Over The Internet, With Enhanced Postal Security Features," filed November 10, 1999; and

(10) U.S. Non-Provisional Patent Application No. 09/358,801, entitled "Method And Apparatus For Postage Label Authentication," filed July 21, 1999.

The following patent applications, including the present application, are being filed concurrently, and the disclosure of each other application is herein incorporated by reference in its entirety for all purposes:

(1) U.S. Non-Provisional Patent Application No. __/___,___, entitled "Techniques For Dispensing Postage Using A Communication Network" (Attorney Docket No. 006969-022320US);

(2) U.S. Non-Provisional Patent Application No. __/___,___, entitled "Method Of Distributing Postage Label Sheets With Security Features" (Attorney Docket No. 006969-025510US);

(3) U.S. Non-Provisional Patent Application No. __/___,___, entitled "Targeted Advertisement Using A Security Feature on A Postage Medium " (Attorney Docket No. 006969-025520US)

(4) U.S. Non-Provisional Patent Application No. __/___,___, entitled "Method And Apparatus For Providing Postage Indicia Over A Data Communication Network" (Attorney Docket No. 006969-025400US);

(5) U.S. Non-Provisional Patent Application No. __/___,___, entitled "System And Method For Managing Multiple Postage Functions In A Single Account" (Attorney Docket No. 006969-021210US);

(6) U.S. Non-Provisional Patent Application No. __/___,___, entitled "System And Method Of Printing Labels" (Attorney Docket No. 006969-025610US); and

(7) U.S. Non-Provisional Patent Application No. __/___,___, entitled "Providing Stamps On Secure Paper Using A Communications Network" (Attorney Docket No. 006969-022220US).

BACKGROUND OF THE INVENTION

The present invention relates generally to postage dispensing systems, and more particularly to methods of providing advertisements targeted to a user trying to purchase a postage stamps over a communication network.

Traditionally, consumers could purchase postage or stamps only from special locations designated by a postal authority. For example, in the U.S., consumers could buy postage only from post offices or other centers specifically authorized by the United States Postal Service (USPS) to sell postage. A disadvantage of this traditional postage buying method is that a consumer has to spend the time and make to effort to physically travel to the post office to buy postage.

In order to alleviate the inconveniences associated with traditional techniques described above, postal authorities such as the USPS, now allow postage to be printed by electromechanical postage meters which can be placed at the consumers' or users' premises. Such postage meters can be leased, rented, or purchased where allowed, from the postal authority or from vendors, such as Neopost™, who have been authorized by the postal authority to sell the meters. Typically, the user purchases a fixed amount of postage value beforehand and the meter is programmed with this amount. Subsequently, the user is allowed to print postage up to the programmed amount. The meter typically includes a print mechanism and mechanical arrangements and/or electronic control circuitry that direct the operation of the print mechanism.

Because the meter is capable of printing postage having a value, the postal authority generally mandates that, in order to maintain security of the postal funds, the

postage meters be acquired and used/handled according to strict, complex, and often bureaucratic regulations imposed by the postal authority. For example, a special meter agreement has to be signed between the meter vendor and the user before the meter can be rented or leased by the user. The user also has to secure a postal license number from a postal authority and the meter has to be seeded with the postal license number. A postal license number is usually associated with a geographical address of a user and is used by the postal authority to track the location of the postage meter and its user. A user using postage meters at multiple geographical addresses has to secure multiple postal licenses, one for each address. Additionally, before a new meter is put into service, the meter has to be inspected and sealed by postal authority personnel. Once in service, each meter has to be periodically inspected by postal authority representatives. Further, postal regulations mandate that the postage meter itself incorporate a variety of security features thereby increasing the costs associated with acquiring and using the meter. As a result, renting or leasing, and subsequently using a postal meter can often be expensive, inconvenient, and involve many bureaucratic hurdles. Consequently, it is quite impractical for individual users to use postage meters.

With a view towards alleviating some of the above-mentioned problems and making use of advances in electronics and communications, the United States Postal Service (USPS) has promulgated specifications for its Information Based Indicia Program (IBIP). The IBIP program supports new methods of applying postage in lieu of conventional approaches that typically rely on the use of a postage meter mechanically printing the indicium on mail pieces.

The IBIP program contemplates postal indicia printed by conventional printers (e.g., thermal, inkjet, or laser) and including human-readable and machine-readable portions. An indicium refers to the imprinted designation or a postage mark used on mail pieces denoting evidence of postage payment. The machine-readable portion was initially specified to be a two-dimensional barcode symbology known as PDF417. The indicium content includes a digital signature for security reasons (to preclude forgery). There are separate specifications for open and closed systems.

The specifications have been updated over the last few years; the recent specifications for open and closed systems are:

- Information-Based Indicia Program (IBIP) Performance Criteria for Information-Based Indicia and Security Architecture for Open IBI Postage Evidencing Systems (PCIBI-O) (Draft February 23, 2000), and
- Information-Based Indicia Program (IBIP) Performance Criteria for Information-Based Indicia and Security Architecture for Closed IBI Postage Metering Systems (PCIBI-C) (Draft January 12, 1999).

These specifications are herein incorporated by reference in their entirety for all purposes.

An open system is defined as a general purpose computer used for printing information-based indicia, but not dedicated to the printing of those indicia. A closed system is defined as a system whose basic components are dedicated to the production of information-based indicia and related functions, that is, a device dedicated to creating indicia similar to an existing, traditional postage meter. A closed system may be a proprietary device used alone or in conjunction with other closely related, specialized equipment, and includes the indicium print mechanism.

The IBIP program specifies a postal security device (PSD) that manages the secure postage registers and performs the cryptographic operations of creating and verifying digital signatures.

The open system specification describes a host system (a computer or postage meter) connected to an unsecured printer (e.g., a laser printer or the like) and a PSD. The host system also provides communication facilities that allow the PSD's vendor and/or the USPS to establish communications with the PSD. Communications supported include troubleshooting, accounting transactions, and the like.

The PSD and host cooperate to provide an indicium, which is then transmitted to and printed by the unsecured printer. The specified indicium allows the use of an unsecured printer (e.g., thermal, inkjet, or laser) by using a digital signature, which also supports authentication of the mail piece. The indicium includes human-readable information and machine-readable information (initially specified as a PDF417 two-dimensional bar code). Each PSD is a unique security device, having core security functions such as digital signature generation and verification and secure management of information (e.g., descending and ascending registers).

Several techniques have been developed, based on the IBIP program, to streamline and simplify the use of postage meters while providing the required security. For example, U.S. Patent No. 6,005,945 (Whitehouse) discloses a system for electronic distribution of postage using a secure central computer which generates the postal indicia in response to postage requests submitted by end user computers. However, these conventional techniques, including the system described in the Whitehouse patent, still require the user to apply for and obtain a postal license number from a postal authority. Further, since a postal license is associated with a particular address, if the user wants to purchase postage from more than one address, the user has to secure multiple postal license numbers, one for each address. As a result, a user still has to suffer the inconveniences and bureaucratic hurdles of obtaining postal license numbers. Further, since the issuance of postal licenses may take several days or even weeks, valuable time is wasted before a user can make use of services provided by a postage vendor. Thus, even though electronic postage distribution techniques based upon the IBIP program have reduced inconveniences associated with traditional postage meters, they are still significantly unwieldy.

In light of the above, there is a need for techniques which allow a user to buy postage without suffering the inconveniences described above. It is further desirable that the techniques be operable in a distributed environment and make use of communication networks such as the Internet.

SUMMARY OF THE INVENTION

The present invention relates to a method of providing advertisements specifically targeted to a user who is trying to purchase a postage stamp over a communication network. A method of providing an advertisement targeted to a user trying to purchase a value stamp over a communication network includes providing a medium to a user having access to a data processing system. The medium is suitable for printing a value indicium thereon and has an identifier code that identifies the medium. The identifier code of the medium is received from the user to be used to purchase a value stamp. The identifier code is used to retrieve one or more advertisements from a pool of advertisements that are available to be provided to the user. The retrieved one or more advertisements is provided to the user.

A further understanding of the nature and advantages of the present invention may be realized by reference to the remaining portions of the specification and the attached drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

Fig. 1 is a simplified block diagram of a distributed computer network which may incorporate an embodiment of the present invention;

Fig. 2 is a simplified block diagram of an exemplary computer system according to an embodiment of the present invention;

Fig. 3 is a simplified high-level flowchart showing processing performed by a user system and a postage vendor system for dispensing postage according to an embodiment of the present invention;

Fig. 4 depicts an exemplary individual pre-printed label on which an indicium may be printed according to an embodiment of the present invention;

Fig. 5 depicts a label sheet according to an embodiment of the present invention;

Fig. 6 depicts an individual label with an indicium printed on it according to an embodiment of the present invention;

Fig. 7 illustrates an example process flow of one embodiment of the present invention;

Fig. 8A illustrates an example process flow of another embodiment of the present invention;

Fig. 8B illustrates a label sheet having spaces for printing coupons thereon according to one embodiment of the present invention;

Fig. 9 illustrates an example process flow of yet another embodiment of the present invention; and

Fig. 10 illustrates an example of a roll of postage labels of yet another embodiment of the present invention.

DESCRIPTION OF THE SPECIFIC EMBODIMENTS

The present invention provides techniques for providing targeted advertisements to a user attempting to purchase a postage stamp using a communication network, such as the Internet. Fig. 1 is a simplified block diagram of a distributed computer network 100 which may incorporate an embodiment of the present invention. Computer network 100 includes one or more user computer systems 104-1 and 104-2, at least one postage vendor system (PVS) 102, and a postal authority system (PAS) 106 coupled to a communication network 108 via a plurality of communication links 110. User systems 104 may optionally be coupled to one or more printers 112 or other like printing devices, and other peripheral devices (not shown) such as a weighing scale.

Communication network 108 provides a mechanism for allowing the various components of distributed network 100 to communicate and exchange information with each other. Communication network 108 may itself be comprised of many interconnected computer systems and communication links. Communication links 18 may be hardwire links, optical links, satellite or other wireless communications links, wave propagation links, or any other mechanisms for communication of information. While in one embodiment communication network 108 is the Internet, in other embodiments, communication network 108 may be any suitable computer network. Distributed computer network 100 depicted in Fig. 1 is merely illustrative of an embodiment incorporating the present invention and does not limit the scope of the invention as recited in the claims. One of ordinary skill in the art would recognize other variations, modifications, and alternatives. For example, more than one PVS 102 may be coupled to communication network 108. Further, one or more printers 112 may optionally be coupled to a single user system 104, or alternatively a plurality of user systems 104 may share one or more common printers. Other devices such as weighing machines for weighing mail pieces, fax machines, scanners, etc. may also be coupled to user systems 104.

User systems 104 allow users of the present invention, for example, postage consumers, to interact with and buy postage from PVS 102. These users may include one or more human beings interacting with an user system 104, one or more processes executing on user system 104 or systems coupled to user systems 104, devices coupled to user system 104, or other entities capable of interacting with PVS 102.

Various different types of interactions with PVS 102 are facilitated by user systems 104. For example, users may use user systems 104 to configure requests to purchase postage from PVS 102. These user purchase requests are then communicated from user systems 104 to PVS 102 via communication network 108. In response to the user requests, user systems 104 may receive information for printing indicia (or a single indicium) from PVS 102. A user may then use user system 104 to print the indicia using printer devices coupled to or accessible to user system 104. The indicia may be printed on labels, on paper, on the mail pieces themselves, or on other like media. In alternative embodiments of the present invention, a user using user system 104 may store the information for printing indicia received from PVS 102 on a storage medium, such as a computer disk, for subsequent printing of the indicia.

Users may also use user systems 104 to perform other activities such as browse web-pages stored by PVS 102, register as users of services provided by PVS 102, provide financial and credit information for consummating commercial transactions with PVS 102, review status of user accounts if such accounts are maintained by PVS 102, review postage purchase history, access help or customer services provided by PVS 102, and to perform other like activities. Accordingly, in a client-server environment, user system 104 typically operates as a client requesting information from PVS 102 which operates as a server which performs processing in response to the client request and provides the requested information to the client systems. It should be however apparent that a particular user system 104 may act both as a client or a server depending on whether the user system is requesting or providing information.

As stated above, a user may use user system 104 to browse or interact with web pages provided by PVS 102. These web pages may be stored by one or more web servers in PVS 102 and may be accessed by users of user system 104 via a browser program executing on user system 104. Examples of browser programs include the Internet Explorer browser program provided by Microsoft Corporation, the Netscape Navigator browser provided by Netscape Corporation, and others. In the Internet and World Wide Web (the "Web") environment, the web pages may be written in Hypertext Markup Language (HTML) and may incorporate any combination of text, graphics, audio and video content, software programs, and other data. Web pages may also contain hypertext links to other web pages. Each web page is uniquely identified by an address called a Uniform Resource Locator (URL) that enables users to access the web page.

Users may access web pages by providing URL information to the browser, either directly or indirectly, and in response, a web page corresponding to the user-specified URL is downloaded from a server coupled to communication network 108 to the requesting user computer 104. The downloaded web page may then be viewed by the user using the browser.

According to the teachings of the present invention, PVS 102 is responsible for dispensing postage to users in response to postage purchase requests received from user systems 104. As shown in Fig. 1, PVS 102 may itself be comprised of multiple interconnected computer and server systems 114 and communication links, as will be described below. PVS 102 may be configured to receive postage requests from user systems 104, validate the postage requests, generate information for printing indicia in response to the postage requests, perform security functions related to the postage transaction, manage funds related to the postage transaction, communicate the information for printing the indicia to the requesting user systems 104, maintain users accounts, and several other functions. These functions are generally performed by software code modules executed by PVS 102. However, it should be apparent that these functions may be also performed by software modules or hardware modules of PVS 102, or combinations thereof.

According to an embodiment of the present invention, the information for printing indicia generated by PVS 102 is generally along the lines specified by the IBIP specifications published by the United States Postal Service (USPS). As indicated above, the IBIP specifications propose new methods for generating postage which will make use of technological advances in the fields of computers and communication networks while enhancing the security of the postage. These methods are supposed to retrofit and augment existing postage meters using new technology known as information-based indicia.

According to the teachings of the present invention, the security-critical functions performed by PVS 102 as part of generating the information for printing the indicia comply with the security-critical functions performed by the Postal Security Device (PSD) described in the IBIP specifications. PVS 102 may also be configured to perform functions performed by the Host System described in the IBIP specifications. The entire contents of the IBIP specifications are herein incorporated by reference for all

purposes. Further, details regarding the functions performed by PVS 102 are provided below.

According to the teachings of the present invention, a single postal license number is assigned to each PVS 102 by a postal authority such as the USPS. PVS 102 uses the single postal license number to cater to postage requests from a plurality of unrelated users who may be at different geographical addresses. Thus, according to the present invention, a single postal license number is effectively shared between a plurality of users who may have different geographical addresses. This is substantially different from conventional postage vending techniques wherein a user is required to apply for and receive at least one unique postal license number. This is the case even if the postage indicium was generated by a central computer, for example, as discussed in U.S. Patent No. 6,005,945 (Whitehouse). Accordingly, the present invention provides a level of postage buying convenience heretofore not achieved by conventional techniques. Since the postal license number is associated with PVS 102 rather than with the user, the user is shielded from the procedural steps required for obtaining the postal license number. In fact, according to the present invention, the consumer of the postage does not even have to be aware of the postal license number. A user may buy postage by simply sending a postage request to PVS 102 and receiving information for printing one or more indicia corresponding to the request from PVS 102.

Referring back to Fig. 1, postal authority system (PAS) 106 may comprise one or more computer systems managed by a postal authority authorized to regulate and control all postal matters. Examples of postal authorities include the United States Postal Service (USPS), France's La Poste, UK's Royal Mail, and others. In most instances, the postal authority is a governmental or quasi-governmental agency authorized to oversee postal matters. PAS 106 may be coupled to PVS 102 via communication network 108 or directly via some other communication link 110. The information exchanged between PVS 102 and PAS 106 may include finance information, information required by the postal authority for audit purposes, status information, security information, and other like information. The information required by the postal authority for audit purposes may include information identifying the postage buyers, the postage value and amount purchased by the buyers, and other information. PVS 102 may be configured to download information to PAS 106 on a periodic basis using batch processing, or upon the

occurrence of certain events. PVS 102 may also be configured to purchase postage from PAS 106.

Fig. 2 is a simplified block diagram of an exemplary computer system 200 according to an embodiment of the present invention. Computer system 200 may function as user system 104, as PVS 102 or as one of the computer systems which make up PVS 102, as PAS 106, or other like system. Computer system 200 typically includes at least one processor 204, which communicates with a number of peripheral devices via bus subsystem 202. These peripheral devices typically include a storage subsystem 212, comprising a memory subsystem 214 and a file storage subsystem 220, user interface input devices 210, user interface output devices 208, and a network interface subsystem 206. The input and output devices allow user interaction with computer system 200. It should be apparent that the user may be a human user, a device, a process, another computer, and the like. Network interface subsystem 206 provides an interface to outside networks, including an interface to communication network 108, and is coupled via communication network 108 to corresponding interface devices in other computer systems.

User interface input devices 210 may include a keyboard, pointing devices such as a mouse, trackball, touchpad, or graphics tablet, a scanner, a barcode scanner for scanning article barcodes, a touchscreen incorporated into the display, audio input devices such as voice recognition systems, microphones, and other types of input devices. In general, use of the term "input device" is intended to include all possible types of devices and ways to input information into computer system 200 or onto communication network 108.

User interface output devices 208 may include a display subsystem, a printer, a fax machine, or non-visual displays such as audio output devices. The display subsystem may be a cathode ray tube (CRT), a flat-panel device such as a liquid crystal display (LCD), or a projection device. The display subsystem may also provide non-visual display such as via audio output devices. In general, use of the term "output device" is intended to include all possible types of devices and ways to output information from computer system 200 to a user or to another machine or computer system.

Storage subsystem 212 stores the basic programming and data constructs that provide the functionality of the computer system. For example, the various modules implementing the functionality of the present invention may be stored in storage subsystem 212 of PVS 102. These software modules are generally executed by processor(s) 204. In a distributed environment, the software modules may be stored on a plurality of computer systems and executed by processors of the plurality of computer systems. Storage subsystem 212 also provides a repository for storing the various databases storing information according to the present invention. Storage subsystem 212 typically comprises memory subsystem 214 and file storage subsystem 220.

Memory subsystem 214 typically includes a number of memories including a main random access memory (RAM) 218 for storage of instructions and data during program execution and a read only memory (ROM) 216 in which fixed instructions are stored. File storage subsystem 220 provides persistent (non-volatile) storage for program and data files, and may include a hard disk drive, a floppy disk drive along with associated removable media, a Compact Digital Read Only Memory (CD-ROM) drive, an optical drive, removable media cartridges, and other like storage media. One or more of the drives may be located at remote locations on other connected computers at another site on communication network 108. Information stored according to the teachings of the present invention may also be stored by file storage subsystem 220.

Bus subsystem 202 provides a mechanism for letting the various components and subsystems of computer system 200 communicate with each other as intended. The various subsystems and components of computer system 200 need not be at the same physical location but may be distributed at various locations within distributed network 100. Although bus subsystem 202 is shown schematically as a single bus, alternative embodiments of the bus subsystem may utilize multiple busses.

Computer system 200 itself can be of varying types including a personal computer, a portable computer, a workstation, a computer terminal, a network computer, a mainframe, or any other data processing system. Due to the ever-changing nature of computers and networks, the description of computer system 200 depicted in Fig. 2 is intended only as a specific example for purposes of illustrating the preferred embodiment of the computer system. Many other configurations of a computer system are possible having more or fewer components than the computer system depicted in Fig. 2. Client computer systems and server computer systems generally have the same configuration as

shown in Fig. 2, with the server systems generally having more storage capacity and computing power than the client systems.

Fig. 3 is a simplified high-level flowchart 300 showing processing performed by user system 104 and PVS 102 for dispensing postage according to an embodiment of the present invention. As shown in Fig. 3, processing is generally initiated when a user accesses a web page provided by PVS 102 using user system 104 (step 302). As described above, the user may access PVS provided web pages by providing URL information corresponding to the web pages to the browser. Using the web page, the user may then configure a request to buy postage from PVS 102 (step 304). For example, the user may request purchase of one or more $0.33 stamps. The user may also use devices connected to user system 104 to configure the request. For example, a weighing scale connected to user system 104 may be used to provide information related to the weight of the mail piece for which postage is to be purchased.

According to an embodiment of the present invention, a user may be required to first register as a user of PVS 102 and open an account with PVS 102 before the user is allowed to buy postage from PVS 102. As part of this registration process, the user may be asked to provide information to PVS 102 such as information identifying the user, credit-card or other like information which may be used by PVS 102 to bill for postage purchased by the user, and other information related to the user. The information provided by the user may be stored by PVS 102 and a unique identifier may be assigned to the user to uniquely identify the user. The user may also be allowed to select a password to access the user's account. The user may also be allowed to configure user preferences related to postage buying activities. The user may also be allowed to store funds in the account which may be used for postage purchases. It should be apparent that in alternative embodiments of the present invention, the user may be allowed to buy postage from PVS 102 without opening an account or registering with PVS 102.

The user request may include information identifying the user, credit-card or other like information which will be used by PVS 102 to bill for the purchased postage, the amount and value/denomination of the postage which the user wishes to purchase, and other like information which may be used by PVS 102 to process the request. A single user request may request purchase of one or more stamps. If the user is a registered user and has a pre-established account with PVS 102, the user identification information may include a user identifier assigned by PVS 102 to the user during user registration.

Further, for a registered user, PVS may use information provided by the user during the registration process for billing purposes, and consequently the credit-card or other like information may not be included in the user request.

The user request may also include other information related to the mail piece/package. For example, the user request may include information related to the weight of the mail piece/package which may be used by PVS 102 to compute the exact postage value required for mailing the mail piece/package. The weight information may be directly input by the user, or may be received from devices, e.g. weighing devices, coupled to user system 104. According to an embodiment of the present invention, the user request may also comprise information identifying the medium on which the indicium (or indicia) is to be printed. For example, if the indicium is to be printed on a label or a sheet of labels, the user request may include information, such as a serial number, associated with the label or sheet of labels. The serial number may be input by the user during step 304. Alternatively, information identifying the medium may be scanned and provided to user system 104. Further details related to the use of labels and sheets of labels are provided below.

User system 104 then communicates the user's request to purchase postage to PVS 102 via communication network 108 (step 306). According to an embodiment, a secure socket layer (SSL) connection may be established between user system 104 and PVS 102 to facilitate communication of information between user system 104 and PVS 102.

PVS 102 then receives the user request to purchase postage from user system 104 (step 308). PVS 102 may then validate the user request (step 310). For example, PVS 102 may determine if the credit-card information provided by the user is valid. PVS 102 may use services provided by companies such as Cybercash and Cybersource to perform the credit-card information validation. If the request is from a registered user who has a pre-funded account,, PVS 102 may determine if the user has sufficient funds in the user's account maintained by PVS 102 to satisfy the postage request. Alternatively, PVS 102 may determine if the credit-card information for the registered user is stored by PVS 102 or provided to PVS 102 by the user request. PVS 102 may also validate other information such as the identity of the user requesting the purchase, the serial number of the medium on which the postage indicium is to be printed, the type of postage requested by the user, and the like. If the validation process fails for

any reason (step 312), the user's request may be terminated and a message may be communicated to the requesting user system 104 indicating that validation of the user request was not successful (step 314). A reason for why the validation failed may also be provided.

If validation is successful, PVS 102 then generates information for printing an indicium for each stamp requested in the user postage request (step 316). According to an embodiment of the present invention, the indicium related information generated by PVS 102 is along the lines specified in the IBIP specifications published by the USPS. For each indicium, the information for printing the indicium may include a bitmap of the indicium, a graphical image of the indicium, data representing the indicium, raw data corresponding to the indicium, or any other information which facilitates printing of the indicium. The information for printing the indicium is then communicated from PVS 102 to the requesting user system via communication network 108 (step 318).

The requesting user system 104 then receives the information for printing the indicium from PVS 102 (step 320). The information received in step 320 may then be used to print the indicium (step 324). For example, a printer device coupled to user system 104 may be used to print the indicium (or indicia). According to an embodiment of the present invention, user system 104 may process the information received from PVS 102 before printing the indicium according to step 324. The indicium may be printed on any suitable medium such as a label, paper, sheet of labels, envelopes, cards, directly on the mail piece/package, or other like media. One or more indicia may be printed at a time. In alternative embodiments of the present invention, the user may store the information for printing the indicia on a storage medium, such as a memory disk, for subsequent printing.

In order to reduce fraudulent imprinting of the indicium, the medium on which the indicium is printed may be configured to possess special features which provide enhanced security against fraudulent misuse. For example, the indicium may be printed on labels which may contain any or all of a variety of security features, such as bar-coding, micro-printing, watermarking, use of fluorescent strips, serrated edges, taggants, and the like. If the indicium is printed on a special medium e.g. secure paper, the user may be prompted to make the special medium available to the printer and follow instructions related to the special medium before the indicium is printed. For example, the user may be prompted to feed a sheet of labels to the printer before the indicium is

printed and select one or more labels on which the indicia is to be printed. The indicium or indicia may then be printed on one or more labels which may then be affixed onto the mail piece/package (just like an ordinary stamp purchased from the post office).

Several different techniques may be used for printing the indicium (or indicia) according to step 324. According to an embodiment, a printer program e.g. a "print.dll", may be downloaded to the user system 104 from PVS 102. The printer program may contain information required by the printer for printing the indicium and may control the printer and other peripheral devices, for example, a weighing machine, coupled to user system 104. The print program may be downloaded automatically from PVS 102 to user system 104 at regular time intervals, or may be downloaded upon the occurrence of specific events such as when the information for printing the indicium or indicia is communicated to user system 104 or when PVS 102 determines that a newer version of the print program is available. After downloading, the print program may be configured to automatically execute when required to control the printer used for printing the indicium. The printer program may include, for example, a Java applet, a VBScript, a Java Script, ActiveX controls, a C++ program, a C program, a Java program, etc. which may be downloaded by the user or which may be automatically downloaded by PVS 102 to user system 104. In an embodiment of the present invention wherein the print program is a Java applet, the applet may be executed by the browser program when a user selects the option to print the indicium.

As stated above, the indicium may be printed on a label, paper, or other like medium, or even on the mail piece/package itself. Fig. 4 depicts an exemplary individual pre-printed label 400 on which the indicium may be printed according to an embodiment of the present invention. As shown in Fig. 4, label 400 has serrated edges 402 which not only serve as a security mechanism but also provide an aesthetic look and feel of a conventional U.S. postage stamp. Other security features imprinted on label 400 may include a colored stripe 404, lines of micro-print 406, a label serial number 408, a logo 410, and a watermark 412. These security features may be placed at different locations on label 400. The description of individual pre-printed label 400 depicted in Fig. 4 is intended only as a specific example for purposes of illustrating an embodiment of the present invention. Many other configurations of label 400 are possible having more or fewer features than those depicted in Fig. 4.

The security features shown in Fig. 4 are meant to reduce fraudulent copying or misuse of the label with the indicium printed on it. For example, colored stripe 404 may be in a color, for example, fluorescent pink, which cannot be easily copied by black and white copiers. Micro-print 406 may include the name of the postage vendor printed in an intricate manner. For example, micro-print 406 may contain the name "Neopost" printed repetitively.

Individual labels may be serialized for increased security and the serial number corresponding to each label may be printed on the label, e.g. serial number 408 depicted in Fig. 4. As part of configuring the user postage request (in step 304 of Fig. 3), the user may be required to enter the serial number of the label on which the indicium is to be printed. PVS 102 may maintain a list of all valid (available and unused) label serial numbers and serial numbers associated with labels may be invalidated by PVS 102 after indicia have been printed on the labels. In this manner, misuse or fraud can be detected if a label serial number received from the user refers to an invalidated serial number.

Logo 410 may display a logo of the postage vendor. In alternative embodiments, logo 410 displayed on label 400 may be selected or customized by the user purchasing the postage. Further, logo 410 need not be pre-printed on label 400, but may be downloaded to user system 104 along with the indicium or indicium data and then printed on label 400 (for example, during step 324 of flowchart 300 depicted in Fig. 3).

The different features printed on label 400 may be printed in special ink to further increase security. The paper on which label 400 is printed may itself be made of or contain special features to reduce fraudulent use. Further details related to the use of security features are discussed in U.S. Application No. 09/611,375 filed July 7, 2000, the entire disclosure of which is herein incorporated by reference for all purposes.

Fig. 5 depicts a label sheet 500 of pre-printed labels according to an embodiment of the present invention. As shown in Fig. 5, sheet 500 comprises ten individual pre-printed labels depicted in Fig. 4. The number of individual labels on a sheet may vary in alternative embodiments of the present invention. Individual sheets may be serialized for increased security and a unique serial number corresponding to each sheet may be printed on the sheet, e.g. sheet serial number 502.

As part of configuring the user postage request, the user may be required to enter the unique serial number of the sheet on which the indicium is to be printed. PVS

102 may maintain a list of all available and valid sheet serial numbers and the number of unused labels corresponding to the sheets. After all the labels on a particular sheet have been used, the unique sheet serial number corresponding to the particular sheet may be invalidated by PVS 102. In this manner, misuse or fraud can be detected if the sheet serial number received from the user refers to an invalidated sheet serial number. According to an embodiment of the present invention, label serial number 408 printed on each label of a sheet may be the same as sheet serial number 502. In alternative embodiments, the sheets of labels may be serialized using a first set of numbers, and each of the labels on the sheets may themselves be serialized using a second set of numbers. Serializing both the sheets and the labels provides for increased security.

Fig. 6 depicts an individual label 600 with an indicium printed on it according to an embodiment of the present invention. In addition to features of a blank label (described above with respect to Fig. 4), label 600 has an indicium printed on it which may include human readable information and machine readable information. For example, the human readable information of the indicium may include the postage amount or value 602 (e.g. $0.33), the mail class 604 of the postage (e.g. FIRST CLASS), and number 606 (e.g. 042N5DD00038) corresponding to a PSD resource from the pool of PSD resources on PVS 102 which was used to generated the information for printing the indicium. Further details related to the use of PSD resources for generating information for printing the indicium are provided below.

The machine readable portion of the indicium may include a two-dimensional code 608, which may be for example a PDF-417 barcode format, a DataMatrix format, or other format. According to an embodiment of the present invention, two-dimensional code 608 is DataMatrix. The particular contents of the two-dimensional code 608 will be discussed below. According to an embodiment of the present invention, the indicium and the positioning of the indicium on label 600 conform generally to specifications described in the IBIP specifications.

Referring back to Fig. 5, the sheet 500 also includes blank spaces or advertisement spaces 504, where advertisements may be printed thereon. In one embodiment, the targeted advertisements may be preprinted on the sheet. Advertisements relating to the vendor or intermediary that provided the label sheets to the users may be placed on the advertisement spaces 504 or on the back sides of the label sheets (not shown). For example, if the label sheet is distributed by Safeway, advertisements on the

products or services provided by Safeway may be provided on the label sheets. In addition, an advertisement may be placed on the label itself. For example, a symbol or trademark of a company, e.g., Yahoo!, may be placed on the labels as a logo. As used herein, the term "intermediary" refers to an entity that provides the label sheets to the public without receiving specific monetary compensation for the label sheets.

In another embodiment, referring to Fig. 7, an exemplary process 700 describes a method of providing targeted advertisements dynamically on the labels, label sheets, or related media as the postage purchase transaction is being performed. As used herein, the term "advertisement" refers to any form of information including visual or audio that is used to promote the cause of a business entity, non-profit organization, political organization, or the like. The process 700 is in part performed by using an identification information of the postage label sheet. The identification information or otherwise refer to as "identifier code" may be a serial number such as the label serial number or sheet serial number which uniquely identify the label or label sheet for security purposes, or may be any other information that can be used to distinguish one group of labels or label sheets from another.

Under the process 700, one or more postage label sheets or postage media having one or more security features are provided to a user (step 702). As explained previously, the security features may include some or all of the following: serrated edges 402, a colored strip 404, a line or lines of microprint 406, a label serial number 408, a logo 410, a watermark 412, and a sheet serial number 502. The label sheet may be sold or given to the user. In some instances, the label sheet or a package thereof may be sold to the user by an online a vendor, such as Neopost Inc., or a traditional brick and mortar vendor, such as Office Depot. In other instances, the label sheets are provided to users as free samples. For example, free samples of label sheets may be provided to users by mass mailing, inserting them into newspapers, and bundling them with products such as printers, computers, and the like. In addition, the free samples may also be provided at doctor's offices, office supply stores, convenience stores, banks, postal offices, supermarkets, and other intermediaries, so that people may have easy access to the sample label sheets for use in purchasing the postage stamps.

At a step 704, the user connects onto the server system or PVS 102 with the user system 104, using a method similar to that described in connection with Fig. 3. The server system is run and managed by a postage service provider such as Neopost Inc.

As used herein, the term "postage service provider" or "service provider" refers to an entity that provides services that enable a user to purchase value stamps, e.g., an agent authorized to sell postage stamps over a network. Generally, before allowing the user to connect onto the server, if the user is a registered member, the user is required to enter his or her unique identification information, e.g., a user ID and password. On the other hand, if the user is not a registered member, the user must first become a registered member or connect on to the server as a guest user, as is well known in the art.

Next the user sends the serial number 408 (or identifier code) on the label sheet to validate the label sheet (step 706). Alternatively, if the label sheet has a sheet serial number 502 (Fig. 5) in addition to the label serial number, the sheet serial number may be sent in place of the label serial number. However, for purpose of convenience, as used hereinafter, the term "serial number" or "identifier code" will be used to describe the embodiments of the invention, but the term may refer to the label serial number or the sheet serial number, or both. The label serial number is unique to each label so that any particular label can be identified by its label serial number. Furthermore, even if the label serial number differ from the sheet serial number, either serial number will uniquely identify the sheet.

As explained herein, this characteristic of the serial number, which enables one label sheet to be distinguished from another, may be used to provide better customer relation management, e.g., enable providing advertisements specifically targeted to the user. In some embodiments, it is sufficient merely to distinguish one group of label sheets from others in order to provide the targeted advertisements. For example, it may be sufficient to distinguish those label sheets distributed from a pediatrician's office from those distributed from a tavern, or those distributed in San Francisco, California from those distributed in Des Moines, Iowa. For each serial number, information relating to the label sheet may be stored in a database accessible by the PVS 102 in order to use the information as customer-relation-management tools. Alternatively, such information is stored in the database for only selected serial numbers. In other embodiments, a plurality of serial numbers may share the same information, i.e., multiple serial numbers may be grouped into different groups, where those serial numbers in the same group share the same information.

Such information, otherwise referred to as the CRM information, may include one or more of the following: (1) whether the label sheet has been distributed as a

free sample or sold to the user, (2) if distributed freely, the information on the intermediary, (3) if sold, the information on the vendor, (4) the initial geographic location where the label sheet was made available to the public, (5) the sequence of the label sheet within a packet or a given supply of the label sheets, and the like. In one embodiment, this information relating to the sequence of the label sheet is used to determine whether an additional supply of label sheets is required by the users or clients, as explained in a related application, filed concurrently, i.e., U.S. Non-Provisional Patent Application No. __/___,___, entitled "Method Of Distributing Postage Label Sheets With Security Features" (Attorney Docket No. 006969-025510US). The CRM information may include one or several individual data elements. Furthermore, depending on the nature of the database, data elements common to many sheets may only be stored once.

Once the label sheet has been authenticated upon entering the serial number, the stamp is purchased using the procedure described previously in connection with Fig. 3 (step 708). During step 708, the CRM information corresponding to the entered serial number is retrieved from the database in order to use the information to provide advertisements targeted to the user (step 710). Using the CRM information, appropriate advertisements are provided to the user (step 712). For this purpose, in one embodiment, the CRM information is used to obtain the user profile that in turn is used to select and provide advertisements that are deemed relevant to the user. The user profile can be generated from the CRM information since the serial number can be used to identify the entity from whom the user had obtained the label sheet as well as the geographic location of the entity.

The targeted advertisements may relate to the vendor or intermediary from whom the user obtained the label sheet. For example, if the user obtained the label sheet from an obstetrician's office, advertisements for baby products may be provided since the user is likely be interested in these products. Similarly, if the label sheet has been obtained from Office Depot, the advertisements provided may relate to specials offered by that store or its sister stores. Alternatively, the advertisements may relates to or includes advertisements on office furniture or computers which may be of interest to the user who had shopped in Office Depot. In addition, the advertisements may relate to a particular geographic location from where the user obtained the label sheet, i.e., the place where the label sheet was originally made available to the public. For example, if a user obtained the label sheet from a place in Iowa, advertisements relating to farming supplies

or equipment may be provided to the user since people in Iowa are more likely to be interested these types of advertisements than people living in a big city. Likewise, the geographic location information may be used to provide to the user with targeted political advertisements from politicians or political entities from where the user obtained the label sheet since the user is likely to live in a close proximity thereto.

The targeted advertisements above may be provided to the user in numerous different ways. For example, the advertisements may be printed on the advertisement spaces 504 or on the label in place of the logo 410 while the indicia are printed on the labels of the sheet. Alternatively, the advertisements may be printed on a separate paper after the indicia have been printed on the label sheet or may be provided in the form of audio information. The advertisements, e.g., links to other Websites, also may be provided on the display device that the user is using to interact with the PVS 102 to purchase the postage stamps.

Referring to Fig. 8A, in one embodiment, an exemplary process 800 illustrates a method of providing targeted coupons to the user based on the CRM information. Under the process 800, steps 802 to 810 are substantially the same as the steps 702 to 710. As such, the process 800 is described starting from a step 812, at which the CRM information retrieved at step 810 is examined. Thereafter, one or more advertisements or Website links that are deemed to be of interest to the user are selected from a database accessible by the PVS 102 and displayed to the user on the display device (step 814). The database generally stores many more advertisements or links than those selected at step 814. In one embodiment, the CRM information itself may contain advertisements or links to be displayed, so that a separate database need not be accessed to perform step 814. Upon reviewing the displayed advertisements, the user may select one or more advertisements of interested to print the coupons related thereto (step 818). The coupons may be printed on the advertisement spaces 504 or on a separate paper. In one embodiment, the label sheet may be provided with coupon spaces 820 (Fig. 8B) whereon the coupons are printed. The edges of the coupon spaces may be perforated to easily detach the printed coupons from the label sheet. Optionally, the process 900 may include a step 816 to allow the user to view the advertisements in more detail before printing the advertisement. Generally, this is accomplished by selecting one of the links displayed on the display device which acts to retrieve the Website corresponding to the selected link.

Referring to Fig. 9, in one embodiment, an exemplary process 900 illustrates a method of using the identifier code and/or the CRM information as tools for managing customer relations. Steps 902 to 910 are similar to the steps 702 and 710. One difference between the processes 700 and 900 is that under step 902 of the process 900, one or more label sheets would be purchased by an intermediary, e.g., J.P. Consulting Firm, and provided to its clients or potential clients free of charge. After a sequence of steps, at a step 912, the CRM information retrieved at step 910 is examined. In one embodiment, the CRM information directly or indirectly provides the data address of a message to be displayed to the user. The message is retrieved (step 914) and displayed to the user either on the display device or printed on the advertisement spaces 504 of the label sheet or on the label (step 916). One example of such a message is as follows: "Thank you for your continued business, from J.P. Consulting Firm." During the holidays, the following message may be displayed: "Merry Christmas and Happy New Year from J.P. Consulting Firm." In one embodiment, the CRM information itself may contain the data necessary to display the message to the user.

Fig. 10 illustrates an example of a roll of postage labels of one embodiment of the present invention. In Fig. 10, a roll of postage labels 1000 of which three are illustrated, 1002, 1004 and 1006. Each postage label, for example, includes a pink/red colored stripe 1008, a line or lines of microprint 1010, and a individual label serial number 1012. In this embodiment, the individual label serial number 1012 is the same as the sheet serial number representing the roll of postage label stamps and may be used to validate or authenticate the labels to purchase the postage stamps. As with the label sheet 500, the roll 1000 may also be used to provide targeted advertisements to the user. One difference from the exemplary embodiments described above is that the roll 1000 provides much more limited spaces for printing advertisements on the exterior of the labels than the sheet 500.

Although the above functionality has generally been described in terms of specific hardware and software, it would be recognized that the invention has a much broader range of applicability. For example, the software functionality can be further combined or even separated. Similarly, the hardware functionality can be further combined, or even separated. The software functionality can be implemented in terms of hardware or a combination of hardware and software. Similarly, the hardware

functionality can be implemented in software or a combination of hardware and software. Any number of different combinations can occur depending upon the application.

The foregoing description of the preferred embodiments is provided to enable any person skilled in the art to make or use the present invention. Various modifications to these embodiments will be readily apparent to those skilled in the art, and the generic principles defined herein may be applied to other embodiments without the use of the inventive faculty. For example, the targeted advertisement may be performed examining the identifier code on the fly without retrieving and examining the CRM information. That is, the identifier code itself may include information that may enable an application to perform the targeted advertisement described above in one form or another. Thus, the present invention is not intended to be limited to the embodiments shown herein but is to be accorded the widest scope consistent with the principles and novel features disclosed herein.

WHAT IS CLAIMED IS:

1. A method of providing an advertisement targeted to a user trying to purchase a value stamp over a communication network, the method comprising:

providing a medium to a user having access to a data processing system, the medium being suitable for printing a value indicium thereon and having an identifier code that identifies the medium;

receiving from the user the identifier code of the medium to be used to purchase a value stamp;

using the identifier code to retrieve one or more advertisements from a pool of advertisements that are available to be provided to the user; and

providing the retrieved one or more advertisements to the user.

2. The method of claim 1, further comprising:

using the identifier code to validate the medium, wherein the identifier code uniquely identifies the medium; and

printing the value indicium on the validated medium to generate a value stamp.

3. The method of claim 2, wherein the identifier code is a label serial number or a sheet serial number.

4. The method of claim 1, wherein the identifier code is suitable for differentiating one group of media from at least another group of media.

5. The method of claim 1, wherein the medium is a postage label sheet having a plurality of labels.

6. The method of claim 5, wherein providing the retrieved one or more advertisements to the user involves printing the advertisement on the label, on an advertisement space on the label sheet, or a paper other than the label sheet.

7. The method of claim 1, wherein the value indicium is a postage indicium and the value stamp is a postage stamp.

8. The method of claim 1, further comprising:

generating customer-relation-management (CRM) information for the identifier code of the medium, wherein the CRM information includes information on a vendor or intermediary that had provided the label sheet to the public; and

storing the CRM information in a database system, wherein the database system includes CRM information corresponding to a plurality of identifier codes.

9. The method of claim 8, wherein using the identifier code involves retrieving and examining the CRM information corresponding to the identifier code received from the user.

10. The method of claim 9, wherein the information on the vendor or intermediary includes at least one of the following: (1) identity of the vendor or intermediary, (2) location of the vendor or intermediary, (3) types of business of the vendor or intermediary, and (4) businesses related to the vendor or intermediary.

11. The method of claim 1, wherein the identifier code itself includes sufficient information to permit one of more advertisements to be retrieved from the pool of advertisements, the one or more advertisements being targeted to the user.

12. The method of claim 1, wherein the one or more advertisements provided to the user includes at least one of the followings: a Website link, a coupon, an audio information, an audio message, a printed message, a promotional information on a product, a promotional information on an entity, a promotional information on a person, and a promotional information on a cause.

13. The method of claim 1, wherein the medium is provided to the user by a vendor or intermediary without specific monetary compensation for the medium.

14. A method of providing an advertisement targeted to a user attempting to purchase a postage stamp over a communication network, the method comprising:

providing a medium to a user having access to a data processing system, the medium being suitable for printing a postage indicium thereon having an identifier code that identifies the medium;

receiving from the user the identifier code of the medium to be used to purchase a postage stamp;

using the identifier code to select at least one advertisement from a pool of advertisements that are available to be provided to the user, wherein the selected at least one advertisement is targeted to the user; and

providing the selected at least one advertisement to the user.

15. The method of claim 14, wherein identifier code is a serial number that uniquely identifies the medium.

16. The method of claim 14, wherein the identifier code itself contains information that can be used to select the at least one advertisement.

17. The method of claim 14, further comprising:

generating customer-relation-management (CRM) information for the identifier code of the medium;

storing the CRM information in a database system including CRM information for a plurality of identifier codes; and

examining the CRM information of the identifier code of the medium to select the at least one advertisement from the pool of the advertisements.

18. A method of providing an advertisement targeted to a user trying to purchase a postage stamp over a communication network, the method comprising:

generating customer-relation-management (CRM) information corresponding to a serial number of a medium, the medium being suitable for printing a postage indicium thereon to produce a postage stamp;

storing the CRM information in a database system, wherein the database includes CRM information corresponding to a plurality of identifier codes;

providing the medium to a user having access to a data base system;

receiving from the user the identifier code of the medium to be used to purchase the postage stamp;

retrieving the CRM information from the database system, the CRM information corresponding to the received identifier code;

selecting at least one advertisement from a pool of advertisements that are available to be provided to the user using the retrieved CRM information, the at least one advertisement being targeted to the user; and

providing the at least one advertisement to the user.

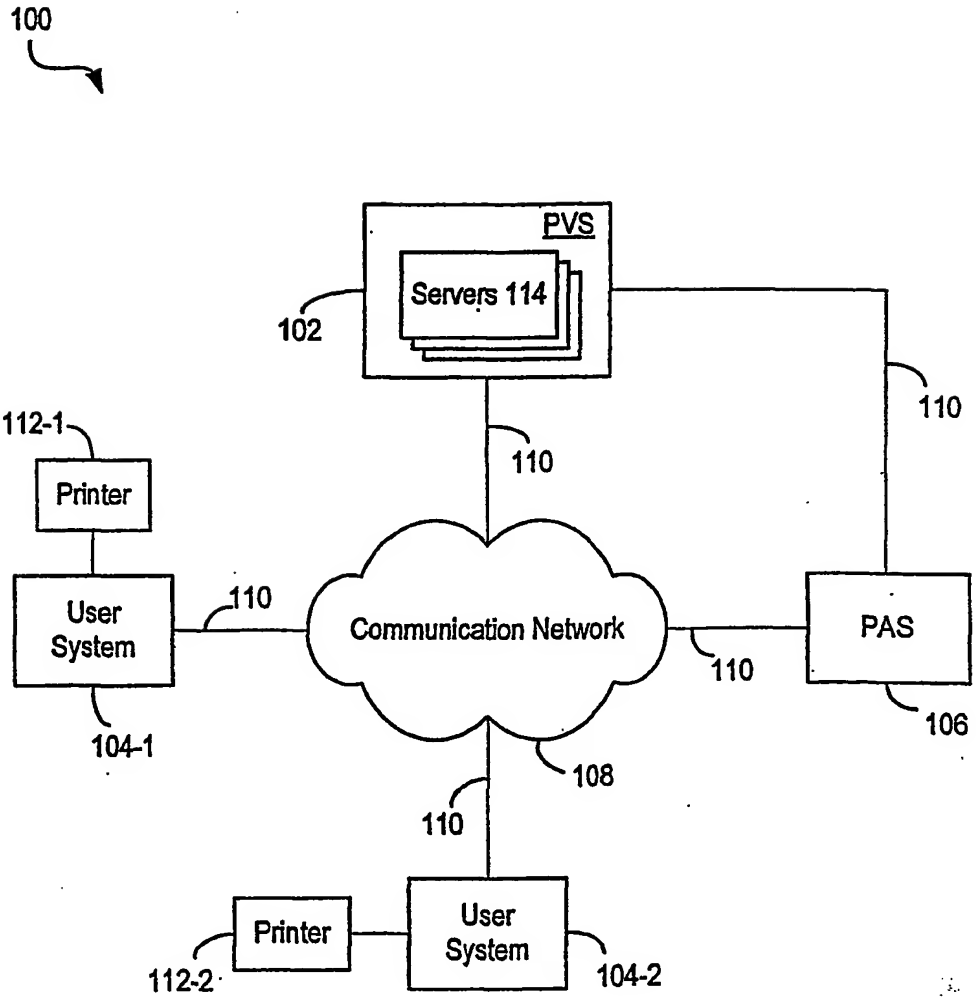

100
PVS
Servers 114
102
110
112-1
Printer
110
User System
110
Communication Network
PAS
110
106
104-1
108
110
Printer
User System
112-2
104-2

Fig. 1

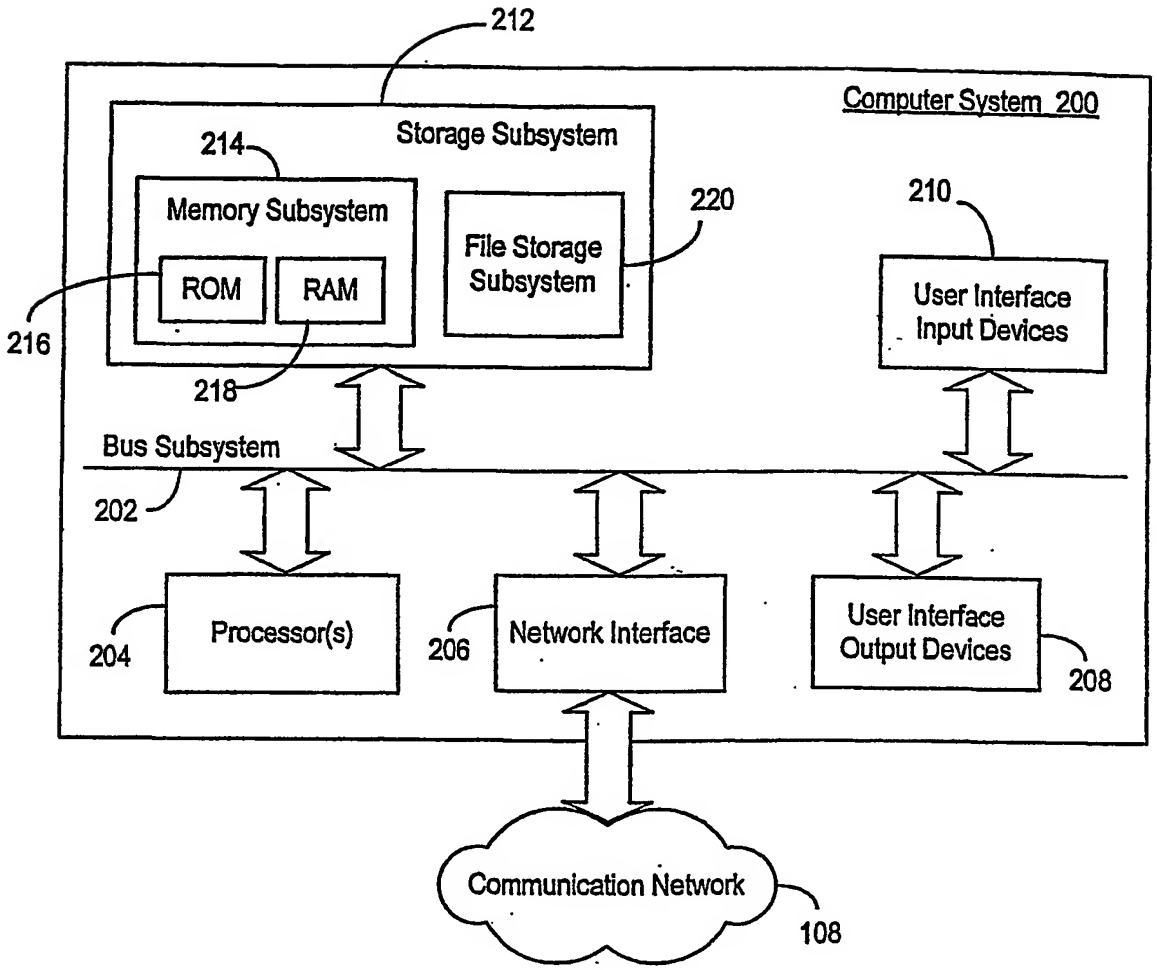

212
Computer System 200
Storage Subsystem
214
Memory Subsystem
ROM
RAM
216
218
220
File Storage Subsystem
210
User Interface Input Devices
Bus Subsystem
202
204
Processor(s)
206
Network Interface
User Interface Output Devices
208
Communication Network
108

Fig. 2

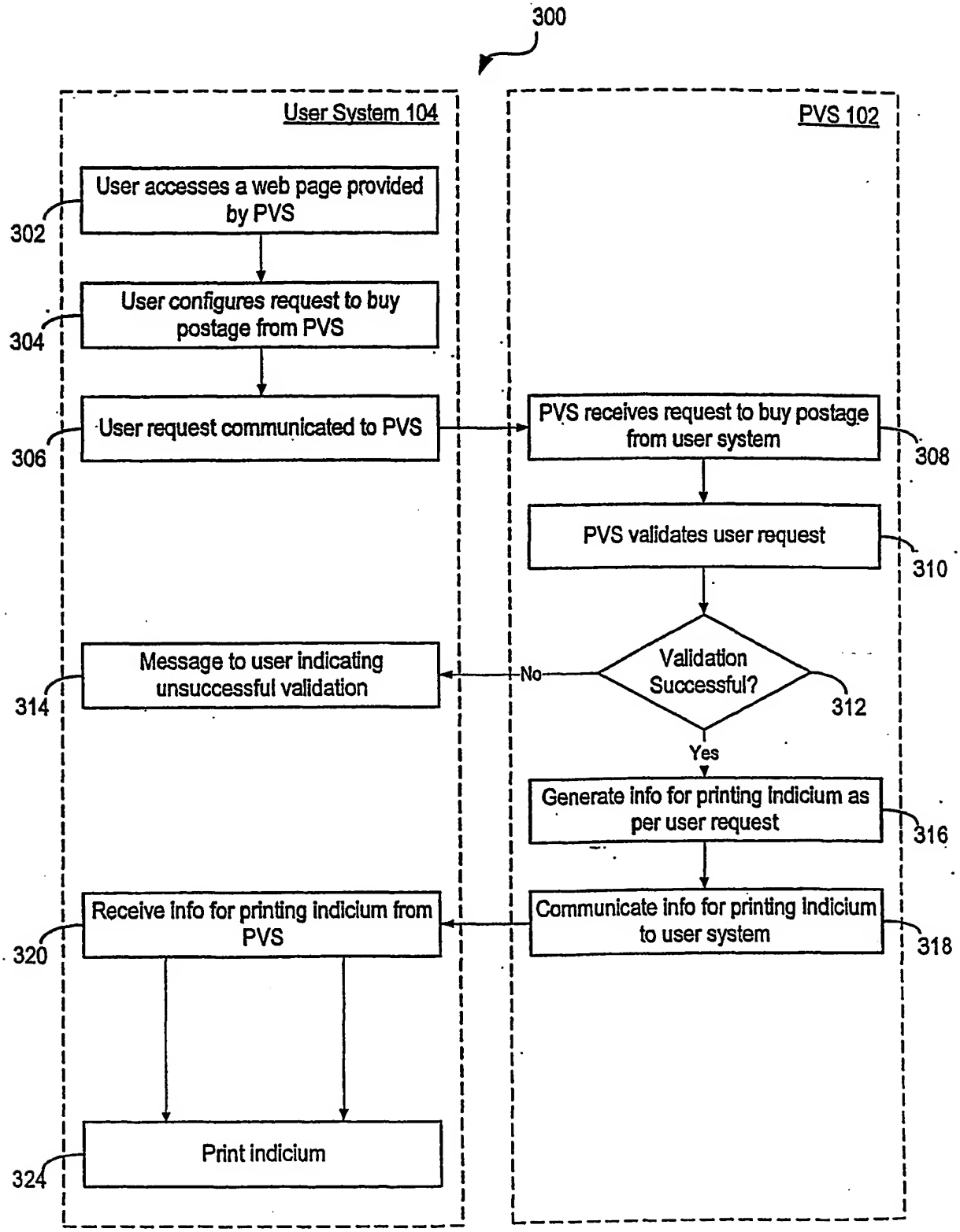

300
User System 104
PVS 102
User accesses a web page provided by PVS
302
User configures request to buy postage from PVS
304
User request communicated to PVS
306
PVS receives request to buy postage from user system
308
PVS validates user request
310
Validation Successful?
312
No
Message to user indicating unsuccessful validation
314
Yes
Generate info for printing indicium as per user request
316
Communicate info for printing indicium to user system
318
Receive info for printing indicium from PVS
320
Print indicium
324

Fig. 3

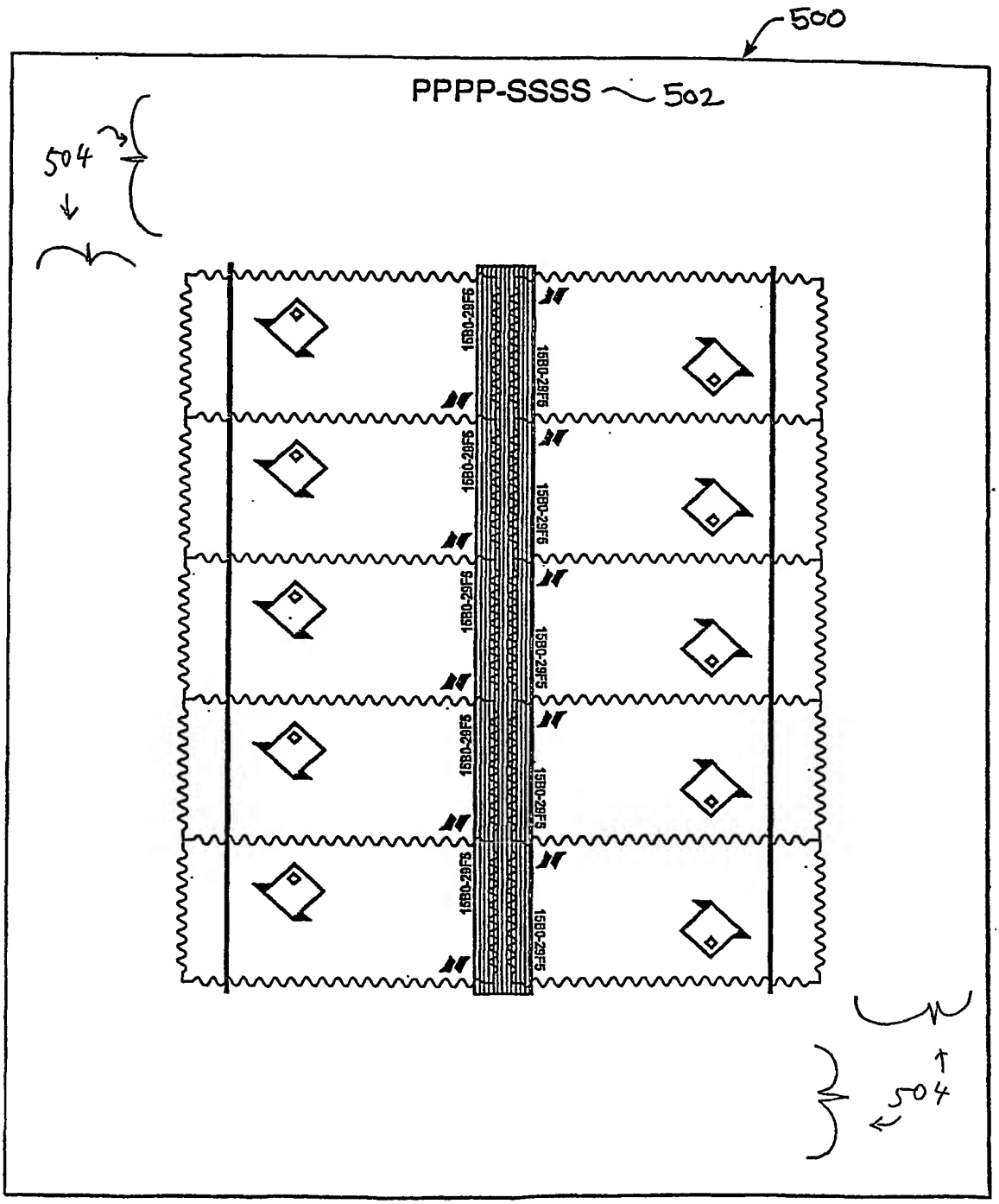


FIG. 5

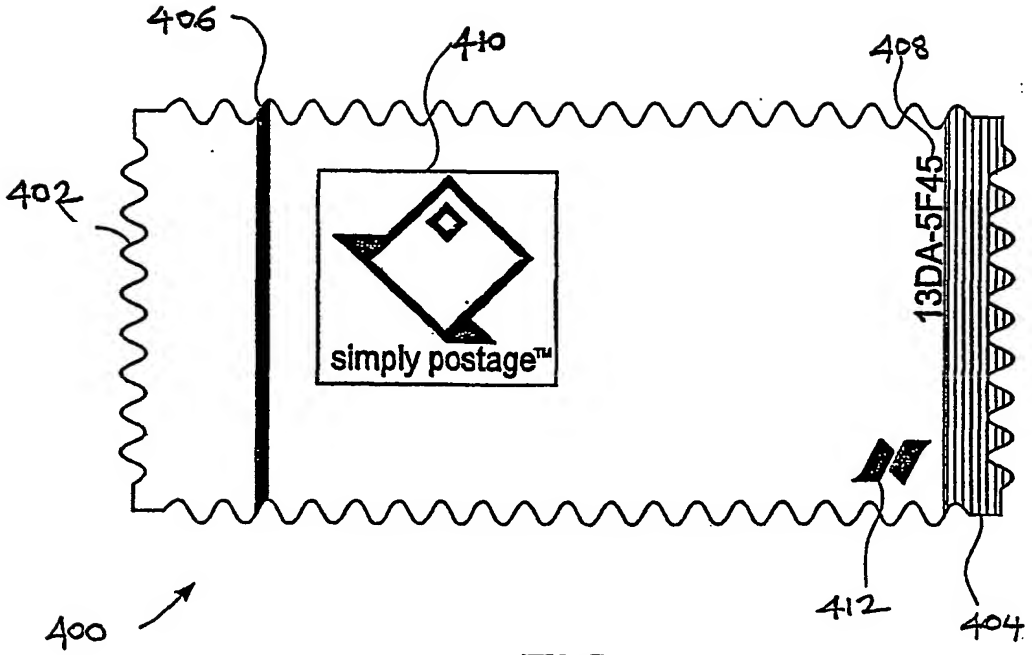
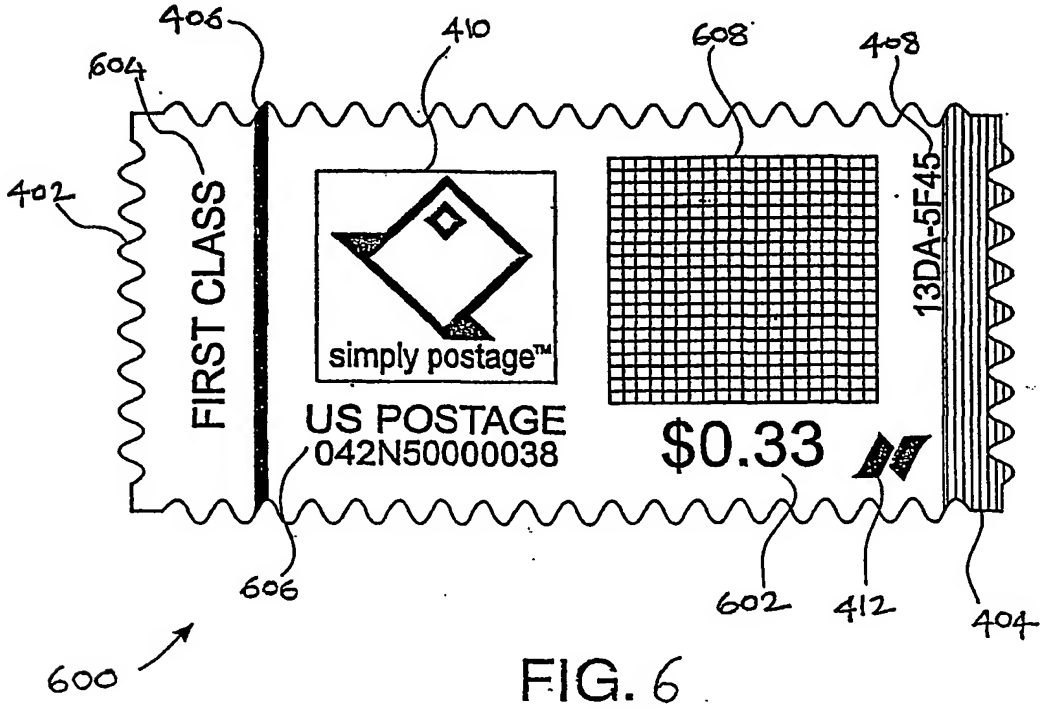

406
410
408
402
simply postage™
13DA-5F45
412
404
400

FIG. 4


406
410
608
408
604
402
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US POSTAGE
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606
602
412
404
600

FIG. 6

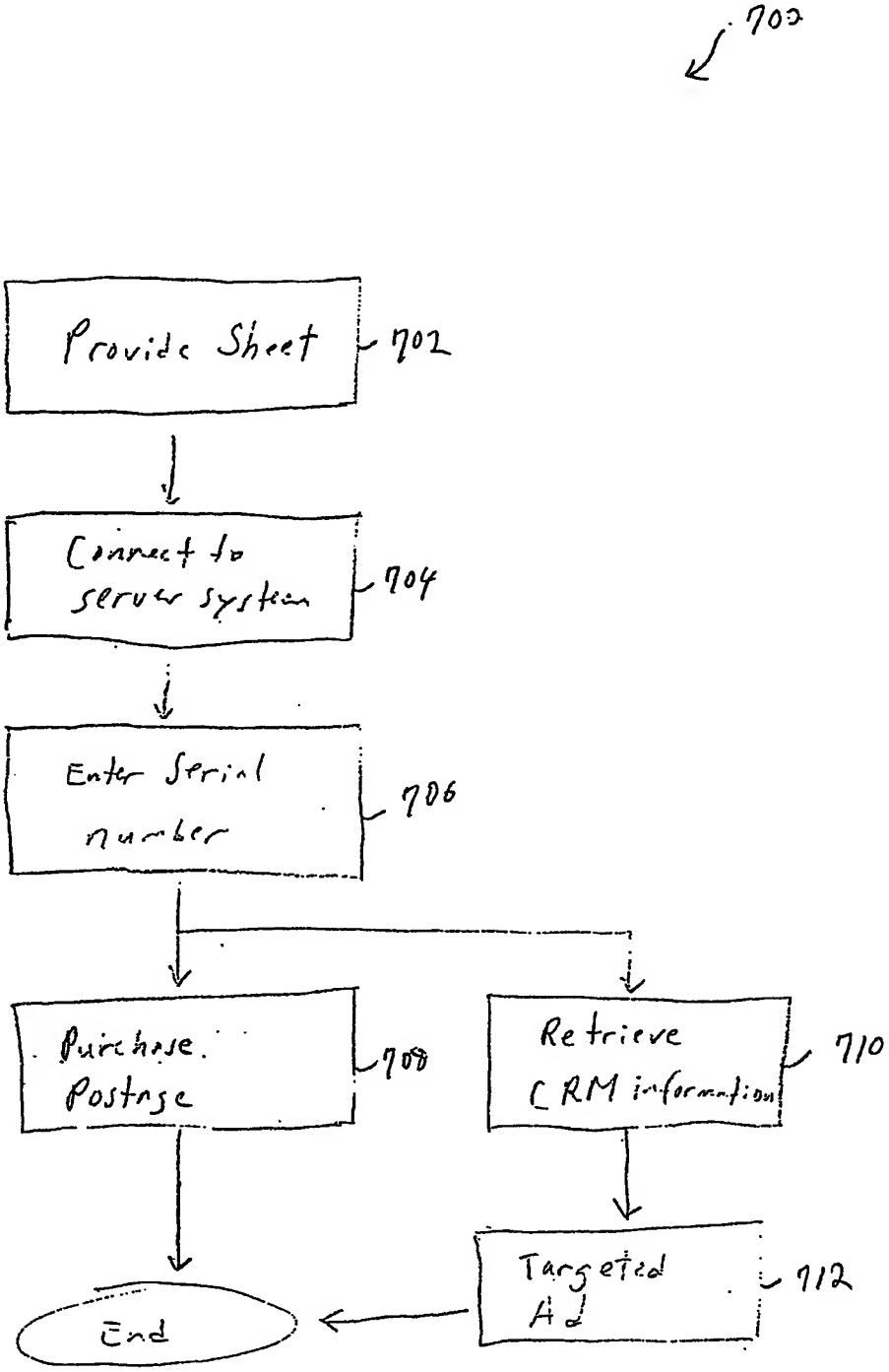
700
Provide Sheet
702
Connect to server system
704
Enter Serial number
706
Purchase Postage
708
Retrieve CRM information
710
Targeted Ad
712
End

FIG. 7

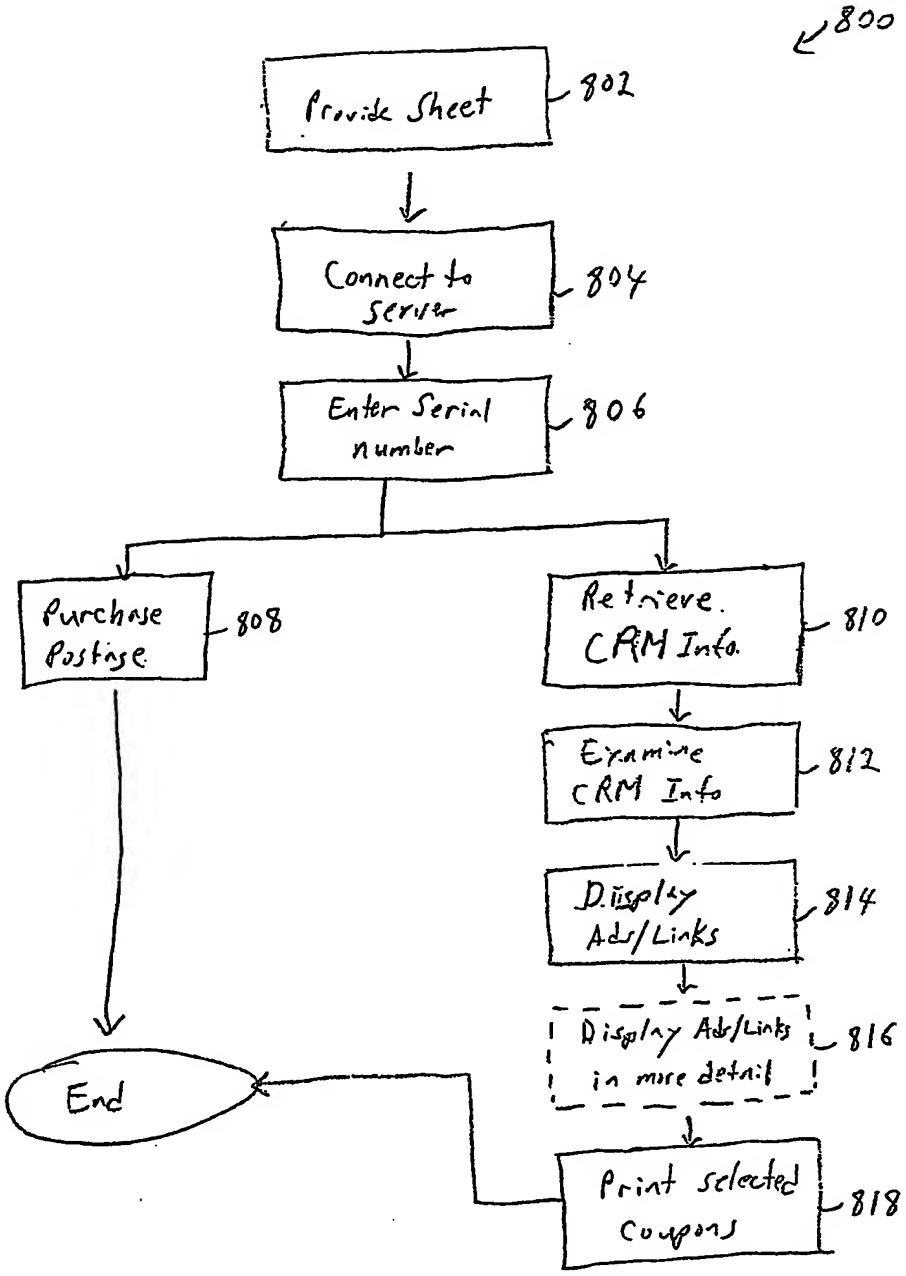
800
Provide Sheet
802
Connect to server
804
Enter Serial number
806
Purchase Postage
808
Retrieve CRM Info.
810
Examine CRM Info
812
Display Ads/Links
814
Display Ads/Links in more detail
816
Print selected coupons
818
End

FIG. 8A

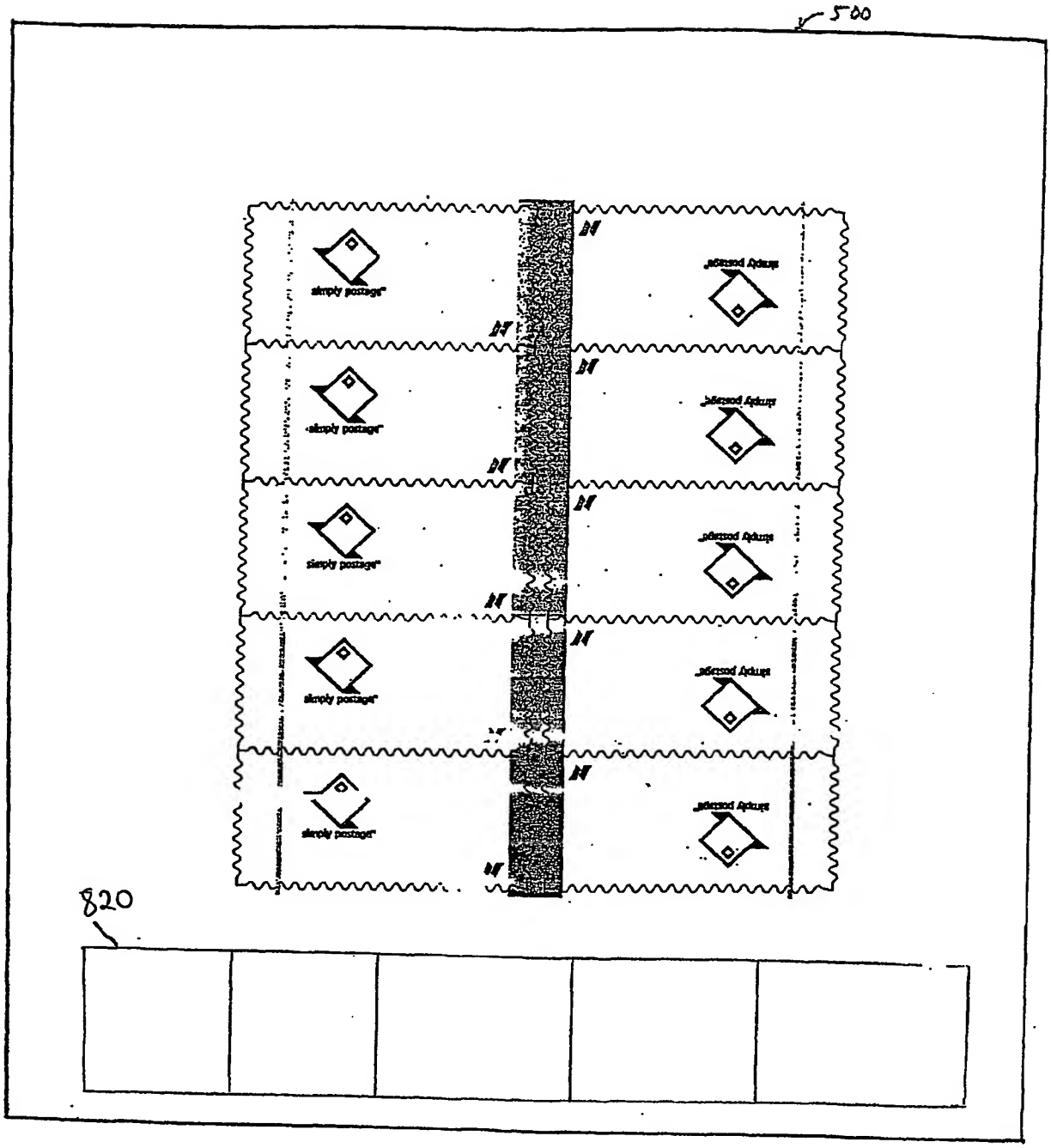

FIG. 8B

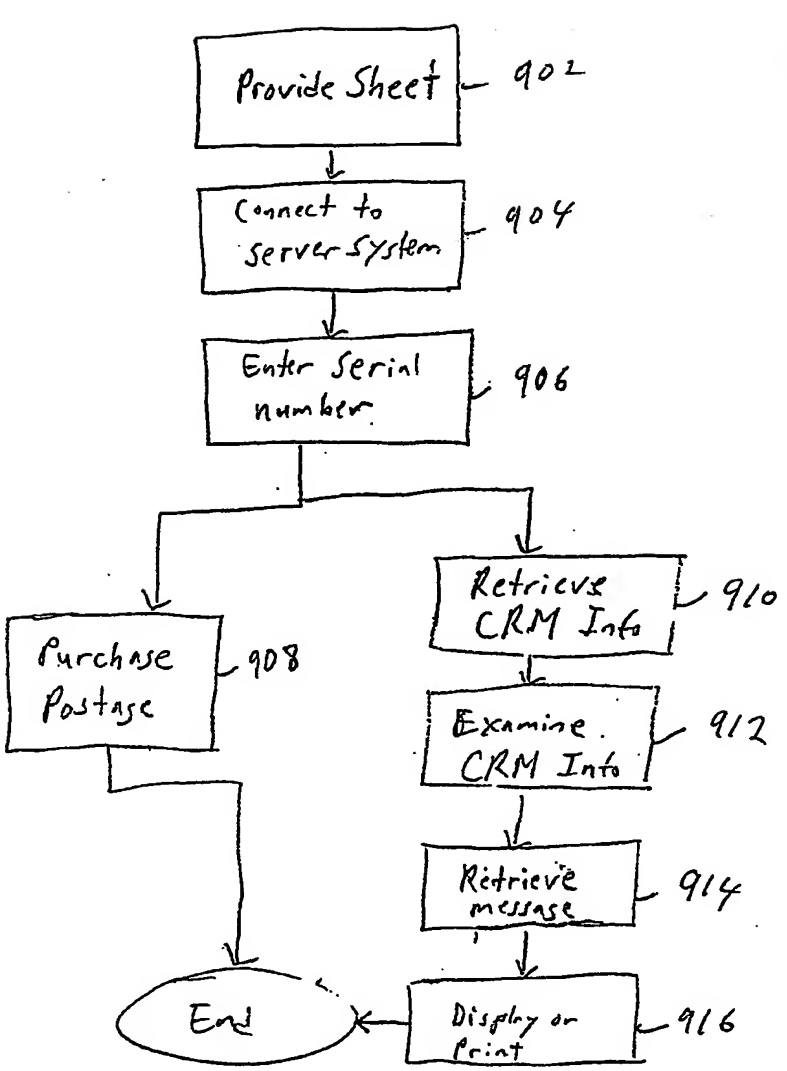
900
Provide Sheet
902
Connect to server system
904
Enter Serial number
906
Purchase Postage
908
Retrieve CRM Info
910
Examine CRM Info
912
Retrieve message
914
Display or Print
916
End

FIG. 9

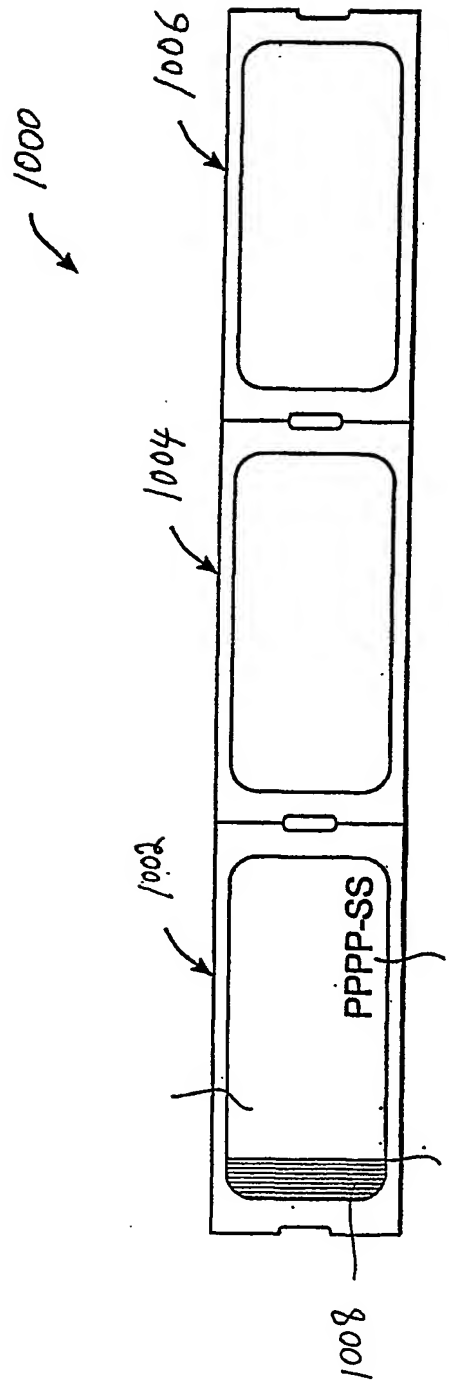

FIG. 10

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US01/21214

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) :G06F 13/00; A63F 3/06; G07B 17/00
US CL :709/27; 463/41; 705/14, 401, 402, 408

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 709/27; 463/41; 705/14, 401, 402

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Shoes

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 5,710,884 A (DEDRICK) 20 January 1998, the ABSTRACT; FIG. 1 through FIG. 10; col. 1, ll. 39-67; col. 2, ll. 1-30; col. 3, ll. 49-67; col. 4, ll. 1-14; col. 6, ll. 11-21; col. 8, ll. 32-53; col. 9, ll. 2-20; and col. 16, ll. 27-67.	1 & 8-13.
Y	US 5,791,991 A (SMALL) 11 August 1998, the ABSTRACT; FIG. 1 through FIG. 7.	2-6
Y	US 5,819,241 A (REITER) 06 October 1998, the ABSTRACT; FIG. 1 through FIG. 3; col. 1, ll. 8-20; and col. 13, ll. 43-65.	7, 14-18

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

*	Special categories of cited documents:	"T"	later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
"A"	document defining the general state of the art which is not considered to be of particular relevance	"X"	document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
"E"	earlier document published on or after the international filing date	"Y"	document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
"L"	document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&"	document member of the same patent family
"O"	document referring to an oral disclosure, use, exhibition or other means		
"P"	document published prior to the international filing date but later than the priority date claimed		

Date of the actual completion of the international search 29 AUGUST 2001	Date of mailing of the international search report 11 OCT 2001
Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231 Facsimile No. (703) 305-3230	Authorized officer ERIC STAMBER Telephone No. (703) 305 3800

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